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EXAMINER	
HARRIS, ANTON B	

ART UNIT	PAPER NUMBER
2831	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/989,289	MORROW ET AL.
	Examiner	Art Unit
	Anton B. Harris	2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *35-112* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *35-112* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claim 35, 36, 45, 49, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock (U.S. Patent No. 3,367,370 cited by Applicant) in view of Pelzer (U.S. Patent No. 5,212,349 cited by Applicant) and Bergemann (DE 2,248,441).

Regarding claim 35, Sherlock (col. 2, lines 41-46) discloses a toneable conduit comprising: an elongate polymeric tube 10 having, a wall with an interior surface, an exterior surface, a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, said wire coated

20 with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10, but lacks a channel within the wall of the polymeric tube, a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube, integral with the elongate polymeric tube, and located radially inward from and directly under said channel, and a continuous high elongation wire capable of transmitting a toning signal to allow the conduit to be detected by toning equipment.

Pelzer (figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall of the polymeric tube in order to protect the wires from corrosion in view of the teachings of Pelzer.

Bergemann (figure 1) teaches a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube A, integral with the elongate polymeric tube A, and located radially inward from said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube, integral with the elongate polymeric tube, and located radially inward from said channel in order to provide strength to the conduit in view of the teachings of Bergemann

Furthermore, claim 35 recites that the high elongation wire is capable of transmitting a toning signal to allow the conduit to be detected by toning equipment. It has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but

only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson,* 69 USPQ 138.

Regarding claim 36, Sherlock (col. 2, lines 41-46) discloses a high elongation wire 20.

Regarding claim 45, Sherlock (col. 2, lines 41-46) discloses a wire coated 20 with a coating 24 composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10.

Regarding claim 49, Sherlock (col. 2, lines 41-46) discloses an elongate tube 10 having a predetermined wall thickness.

Regarding claim 56 Sherlock (col. 2, lines 41-46) discloses a wire 20.

Furthermore, claim 56 recites that the high elongation wire is capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled. It has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson,* 69 USPQ 138.

3. Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann as applied to claim 35 above and further in view of the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product (Publication date unkown but prior to August 7, 2001 cited by Applicant).

Regarding claims 37 and 38, Sherlock modified as taught by Pelzer and Bergemann discloses the invention substantially as claimed, but lacks an elongation of at least about 1% claim 37, and an elongation of at least about 3% claim 38.

The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product teaches an elongation of at least 1% and 3%. (see table of conductor data).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Pelzer and Bergemann by providing an elongation of at least about 1% and an elongation of at least about 3% in order to withstand environmental conditions in view of the teachings of The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product.

4. Claims 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer, Bergemann, and the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product (Publication date unkown but prior to August 7, 2001 cited by Applicant) as applied to claim 37 above and further in view of Craton.

Regarding claims 39 and 40, Sherlock modified as taught by Pelzer, Bergemann, and the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product Sherlock, discloses the invention substantially as claimed, but lacks a coating of a copper-clad steel wire.

Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

Regarding claim 41, the wire of Sherlock inherently has size. It would have been an obvious matter of design choice to modify the invention of Sherlock by providing a wire with a diameter of from about 0.32 mm to about 2.59 mm, since such a modification would have

involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose,* 105 USPQ 237 (CCPA 1955).

5. Claims 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock in view of Pelzer and Bergemann, as applied to claim 35 above and further in view of Craton.

Regarding claims 42 and 43, Sherlock modified as taught by Pelzer, Bergemann, discloses the invention substantially as claimed, but lacks a coating of a copper-clad steel wire.

Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

Regarding claim 44, the wire of Sherlock inherently has size. It would have been an obvious matter of design choice to modify the invention of Sherlock by providing a wire with a diameter of from about 0.32 mm to about 2.59 mm, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose,* 105 USPQ 237 (CCPA 1955).

6. Claims 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock in view of Pelzer and Bergemann, as applied to claim 45 above and further in view of Tzeng et al.

Regarding claim 46, Sherlock modified as taught by Pelzer, Bergemann, discloses the invention substantially as claimed, but lacks a wire coated with a coating composition formed of a polymeric material selected from the group consisting of fluropolymers, polyamides, polyesters, polycarbonates, polypropylene, polyurethanes, polyacetals, polyacrylics, epoxies and silicone polymers

Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polyesters.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a wire coated with polyesters in order to be residually stressed into an expanded shape in view of the teachings of Tzeng et al.

Regarding claim 47, Tzeng et al. (col. 6, lines 11-14) teaches a coating composition formed of a polymeric material that has a melting temperature of at least about 500 degrees Farenheit.

Regarding claim 48, Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polytetrafluoroethylene.

7. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann as applied to claim 49 above and further in view of Levingston et al. (U.S. Patent No. 6,105,649).

Regarding claim 50, Sherlock modified as taught by Pelzer, and Bergemann discloses the invention substantially as claimed, but lacks a smooth exterior surface of the tube.

Levingston et al. (col. 5, lines 50-54) teaches a smooth exterior surface of the tube 16.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a smooth exterior surface of the tube in order to enhance strength and external appearance in view of the teachings of Levingston et al.

8. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann as applied to claim 35 above and further in view of Karl.

Regarding claim 51, Sherlock modified as taught by Pelzer and Bergemann discloses the invention substantially as claimed, but lacks a tube formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride.

Karl (col. 1, line 55) teaches a tube 12 formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Pelzer and Bergemann by providing a tube formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride in order to offer resistance to chemical attack in view of the teachings of Karl.

9. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer, Bergemann, and Karl as applied to claim 51 above and further in view of Bird.

Regarding claim 52, Sherlock modified as taught by Pelzer, Bergemann and Karl discloses the invention substantially as claimed, but lacks a tube formed of a high-density polyethylene.

Bird (col. 4, line 42) teaches a tube 12 formed of a high-density polyethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a tube formed of a high density polyethylene in order to have the advantage of a flexible plastic material in view of the teachings of Bird.

10. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann as applied to claim 35 above and further in view of Nakamura et al. (JP 05106779A cited by Applicant).

Regarding claim 53, Sherlock modified as taught by Pelzer, Bergemann, and Karl discloses the invention substantially as claimed, but lacks at least one additional rib extending longitudinally along the interior surface of the elongate polymeric tube.

Nakamura et al. (figure 1) shows at least one additional rib extending longitudinally along the interior surface of the elongate polymeric tube 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing at least one additional rib extending longitudinally along the interior surface of the elongate polymeric tube in order to strengthen the tube in view of the teachings of Nakamura et al.

11. Claims 54 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock in view of Pelzer, Bergemann, Bird, Craton, and Tzeng et al.

Regarding claim 54, Sherlock (col. 2, lines 41-46) discloses toneable conduit, comprising: an elongate polymeric tube 10 having, a wall with an interior surface, an exterior surface, and a predetermined wall thickness; a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, said wire coated 20 with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10, but lacks a channel within the wall of the polymeric tube, a stabilizing rib extending longitudinally along the interior

surface of the wall of the elongate polymeric tube, integral with the elongate polymeric tube, and located radially inward from and directly under said channel, a predetermined wall thickness, a tube formed of high density polyethylene, a copper-clad steel wire capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled.

Pelzer (figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall of the polymeric tube in order to protect the wires from corrosion in view of the teachings of Pelzer.

Bergemann (figure 1) teaches a a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube A, integral with the elongate polymeric tube, and located radially inward from and directly under said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube, integral with the elongate polymeric tube, and located radially inward from and directly under said channel in order to provide strength to the conduit in view of the teachings of Bergemann

Bird (col. 4, lines 34-37) teaches a predetermined thickness of a wall 14.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a predetermined thickness

of a wall in order to have the advantage of having the depth of recess equal to about one-fifth to about one-half the wall thickness in view of the teachings of Bird.

Bird (col. 4, line 42) teaches a tube 12 formed of a high-density polyethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a tube formed of a high density polyethylene in order to have the advantage of a flexible plastic material in view of the teachings of Bird.

Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

Furthermore, claim 54 recites that the copper-clad steel wire is capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled. It has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson,* 69 USPQ 138.

Regarding claim 55, Sherlock (col. 2, lines 41-46) discloses a wire coated 20 with a coating 24 composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10.

12. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (U.S. Patent No. 4,109,941) in view of Sherlock, Bergemann, and Pelzer.

Regarding claim 57, Wood et al. (abstract) discloses a method of coupling a first toneable conduit 1 with a second toneable conduit 3, comprising the steps of providing a first toneable conduit 1 comprising an elongate polymeric tube having a wall with an interior surface, an exterior surface, and a predetermined wall thickness, and mechanically connecting the first conduit and the second conduit, but lacks a channel extending longitudinally within the wall of the elongate polymeric tube; and a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube, integral with the elongate polymeric tube, and located radially inward from and directly under said channel; and a continuous, high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube; providing a second toneable conduit comprising an elongate polymeric tube having a wall with an interior surface, an exterior surface, and a predetermined wall thickness; a channel extending longitudinally within the wall of the elongate polymeric tube; and a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel; and a continuous, high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube, tearing the high elongation wire of the first toneable conduit through the exterior surface of the first toneable conduit, tearing the high elongation wire of the second toneable conduit through the exterior surface of the second toneable conduit; and electrically connecting the high elongation wire from the first. toneable conduit and the high elongation wire from the second toneable conduit.

Sherlock (col. 2, lines 41-46) teaches a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, said wire coated 20 with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a channel extending longitudinally of the wall of the elongate polymeric tube, a continuous said high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube in order to print as desired in view of the teachings of Sherlock.

Pelzer (col. 12, lines 3-20 and figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12 and teaches tearing the high elongation wire 14 of the first toneable conduit 12 through the exterior surface of the first toneable conduit 12, tearing the high elongation wire 14 of the second toneable conduit 12 through the exterior surface of the second toneable 12 conduit, and electrically connecting the high elongation wire 14 from the first. toneable conduit 12 and the high elongation wire 14 from the second toneable conduit 12 (col. 12, lines 24-27).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall of the polymeric tube and including the step of a tearing the high elongation wire of the first toneable conduit through the exterior surface of the first toneable conduit, tearing the high elongation wire of the second toneable conduit through the exterior surface of the second

toneable conduit, and electrically connecting the high elongation wire from the first. toneable conduit and the high elongation wire from the second toneable conduit in order to protect the wires from corrosion and make a permanent electrical contact in view of the teachings of Pelzer.

Bergemann (figure 1) shows a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube A, integral with the elongate polymeric tube, and located radially inward from and directly under said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from and directly under said channel in order to provide strength to the conduit in view of the teachings of Bergemann

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a second toneable conduit comprising an elongate polymeric tube having a wall with an interior surface, an exterior surface, and a predetermined wall thickness; a channel extending longitudinally within the wall of the elongate polymeric tube; and a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from said channel; and a continuous, high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating composition that prevents the wire from adhering, to the polymer melt used to form the polymeric tube, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

13. Claim 58 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. as modified by Sherlock, Bergemann, and Pelzer above in claim 57, and further in view of Craton.

Regarding claim 58, Wood et al. as modified by Sherlock, Bergemann, Pelzer, and the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product discloses the invention substantially as claimed, but lacks a copper-clad steel wire.

Craton.(col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Wood et al. as modified by Sherlock, Bergemann, and Pelzer by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

14. Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. as modified by Sherlock, Bergemann, and Pelzer above in claim 57 and further in view of Tzeng et al.

Regarding claim 59, Wood et al. modified as taught by Sherlock, Bergemann, and Pelzer discloses the invention substantially as claimed, but lacks a coating of polytetrafluoroethylene.

Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polytetrafluoroethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Sherlock, Bergemann, and Pelzer by providing a wire coated with polytetrafluoroethylene in order to be residually stressed into an expanded shape in view of the teachings of Tzeng et al.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a second

toneable conduit with a wire coated with polytetrafluoroethylene, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.,* 193 USPQ 8.

15. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. as modified by Sherlock, Bergemann, and Pelzer above in claim 57 and further in view of Bird.

Regarding claim 60, Wood et al. modified as taught by Sherlock, Bergemann, and Pelzer discloses the invention substantially as claimed, but lacks a high-density polyethylene.

Bird (col. 4, line 42) teaches a tube 12 formed of a high-density polyethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Sherlock, Bergemann, and Pelzer by providing a tube formed of a high density polyethylene in order to have the advantage of a flexible plastic material in view of the teachings of Bird.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. modified by Sherlock, Bergemann, and Pelzer by providing a second toneable conduit with a tube formed of a high-density polyethylene, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.,* 193 USPQ 8.

16. Claims 61, 62, 70, 71, and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock (U.S. Patent No. 3,367,370 cited by Applicant) in view of Pelzer (U.S. Patent No. 5,212,349 cited by Applicant), and Bergemann (DE 2,248,441 cited by Applicant).

Regarding claim 61, Sherlock (col. 2, lines 41-46) discloses a toneable conduit, comprising: an elongate polymeric tube 10 having, a wall with an interior surface, an exterior

surface, and a predetermined wall thickness; a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, said wire coated 20 with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10, but lacks a channel within the wall of the polymeric tube, a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube, integral with the elongate polymeric tube, and located radially inward from said channel, and a continuous high elongation wire capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled.

Pelzer (figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall of the polymeric tube in order to protect the wires from corrosion in view of the teachings of Pelzer.

Bergemann (figure 1) teaches a a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube A, integral with the elongate polymeric tube, and located radially inward from said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located

radially inward from said channel in order to provide strength to the conduit in view of the teachings of Bergemann

Furthermore, claim 61 recites that the high elongation wire is capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled. It has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson,* 69 USPQ 138.

Regarding claim 62, Sherlock (col. 2, lines 41-46) discloses a high elongation wire 20.

Regarding claim 70, the wire of Sherlock inherently has size. It would have been an obvious matter of design choice to modify the invention of Sherlock by providing a wire with a diameter of from about 0.32 mm to about 2.59 mm, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose,* 105 USPQ 237 (CCPA 1955).

Regarding claim 71, Sherlock (col. 2, lines 41-46) discloses that a wire 20 is coated with a coating 24 composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10.

Regarding claim 80, Sherlock (col. 2, lines 41-46) discloses a wire 20.

Furthermore, claim 80 recites that the wire is capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled. It has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the

ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson,* 69 USPQ 138.

17. Claims 63, 64, and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann as applied to claim 62 above and further in view of the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product (Publication date unkown but prior to August 7, 2001 cited by Applicant).

Regarding claim 63, Sherlock modified as taught by Pelzer and Bergemann discloses the invention substantially as claimed, but lacks an elongation of at least about 1%.

The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product teaches an elongation of at least 1%. (see table of conductor data).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Pelzer and Bergemann by providing an elongation of at least about 1% in order to withstand environmental conditions in view of the teachings of The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product.

Regarding claim 64, Sherlock modified as taught by Pelzer and Bergemann discloses the invention substantially as claimed, but lacks an elongation of at least about 3%.

The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product teaches an elongation of at least 3%. (see table of conductor data).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Pelzer and Bergemann by providing an elongation of at least about 3% in order to withstand environmental conditions in

view of the teachings of The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product.

Regarding claim 67, the wire of Sherlock inherently has size. It would have been an obvious matter of design choice to modify the invention of Sherlock by providing a wire with a diameter of from about 0.32 mm to about 2.59 mm, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose,* 105 USPQ 237 (CCPA 1955).

18. Claim 65 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer, Bergemann and the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product as applied to claim 63 above, and further in view of Craton (U.S. Patent No. 6,139,957).

Regarding claim 65, Sherlock modified as taught by Pelzer, Bergemann and the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product discloses the invention substantially as claimed, but lacks that wire is selected from the group consisting of copper-clad steel wire, copper-clad aluminum wire, copper wire, and tin copper wire.

Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

Regarding claim 66, Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

19. Claims 68 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann as applied to claim 61 above, and further in view of Craton (U.S. Patent No. 6,139,957).

Regarding claim 68, Sherlock modified as taught by Pelzer and Bergemann discloses the invention substantially as claimed, but lacks that wire is selected from the group consisting of copper-clad steel wire, copper-clad aluminum wire, copper wire, and tin copper wire.

Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

Regarding claim 69, Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

20. Claims 72-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann as applied to claim 61 above, and further in view of Tzeng et al. (U.S. Patent No. 6,005,191).

Regarding claim 72, Sherlock modified as taught by Pelzer and Bergemann discloses the invention substantially as claimed, but lacks a coating composition formed of a polymeric material selected from the group consisting of fluropolymers, polyamides, polyesters, polycarbonates, polypropylene, polyurethanes, polyacetals, polyacrylics, epoxies and silicone polymers.

Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polyesters.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a wire coated with

polyesters in order to be residually stressed into an expanded shape in view of the teachings of Tzeng et al.

Regarding claim 73, Tzeng et al. (col. 6, lines 11-14) teaches a coating composition formed of a polymeric material that has a melting temperature of at least about 500 degrees Farenheit.

Regarding claim 74, Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polytetrafluoroethylene.

Regarding claim 75, Sherlock (col. 2, lines 41-46) discloses an elongate polymeric tube 10 having a predetermined wall thickness.

21. Claim 76 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann, as applied to claim 75 above and further in view of Levingston et al. (U.S. Patent No. 6,105,649).

Regarding claim 76, Sherlock modified as taught by Pelzer, and Bergemann discloses the invention substantially as claimed, but lacks a smooth exterior surface of the tube.

Levingston et al. (col. 5, lines 50-54) teaches a smooth exterior surface of the tube 16.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a smooth exterior surface of the tube in order to enhance strength and external appearance in view of the teachings of Levingston et al.

22. Claim 77 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann as applied to claim 61 above and further in view of Karl (U.S. Patent No. 6,135,159).

Regarding claim 77, Sherlock modified as taught by Pelzer and Bergemann discloses the invention substantially as claimed, but lacks a tube formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride.

Karl (col. 1, line 55) teaches a tube 12 formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a tube formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride in order to offer resistance to chemical attack in view of the teachings of Karl.

23. Claim 78 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer, Bergemann, and Karl as applied to claim 77 above and further in view of Bird (U.S. Patent No. 6,131,265).

Regarding claim 78, Sherlock modified as taught by Pelzer, Bergemann, and Karl discloses the invention substantially as claimed, but lacks a tube formed of a high-density polyethylene.

Bird (col. 4, line 42) teaches a tube 12 formed of a high-density polyethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a tube formed of a high density polyethylene in order to have the advantage of a flexible plastic material in view of the teachings of Bird.

24. Claim 79 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann as applied to claim 61 above and further in view of Nakamura et al. (JP 05106779A cited by Applicant).

Regarding claim 79, Sherlock modified as taught by Pelzer and Bergemann discloses the invention substantially as claimed, but lacks at least one additional rib extending longitudinally along the interior surface of the elongate polymeric tube.

Nakamura et al. (figure 1) shows at least one additional rib extending longitudinally along the interior surface of the elongate polymeric tube 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing at least one additional rib extending longitudinally along the interior surface of the elongate polymeric tube in order to strengthen the tube in view of the teachings of Nakamura et al.

25. Claims 81 and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock in view of Pelzer, Bergemann, and Bird (U.S. Patent No. 6,131,265).

Regarding claim 81, Sherlock (col. 2, lines 41-46) discloses a toneable conduit comprising: an elongate polymeric tube 10 having, a wall with an interior surface, an exterior surface, a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, said wire coated 20 with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10, but lacks a channel within the wall of the polymeric tube, a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate

polymeric tube, integral with the elongate polymeric tube, and located radially inward from and supporting said channel, a tube formed of high density polyethylene, and a continuous high elongation wire capable of transmitting a toning signal to allow the conduit to be detected by toning equipment.

Pelzer (figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall of the polymeric tube in order to protect the wires from corrosion in view of the teachings of Pelzer.

Bergemann (figure 1) teaches a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube A, integral with the elongate polymeric tube, and located radially inward from and supporting said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from and supporting said channel in order to provide strength to the conduit in view of the teachings of Bergemann.

Bird (col. 4, line 42) teaches a tube 12 formed of a high-density polyethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a tube formed of a high density polyethylene in order to have the advantage of a flexible plastic material in view of the teachings of Bird.

Furthermore, claim 81 recites that the high elongation wire is capable of transmitting a toning signal to allow the conduit to be detected by toning equipment. It has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson,* 69 USPQ 138.

Regarding claim 82, Sherlock (col. 2, lines 41-46) discloses a wire coated 20 with a coating 24 composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10.

26. Claim 83 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (U.S. Patent No. 4,109,941) in view of Sherlock, Bergemann, and Pelzer.

Regarding claim 83, Wood et al. (abstract) discloses a method of coupling a first toneable conduit 1 with a second toneable conduit 3, comprising the steps of providing a first toneable conduit 1 comprising an elongate polymeric tube having a wall with an interior surface, an exterior surface, and a predetermined wall thickness, and mechanically connecting the first conduit and the second conduit, but lacks a channel extending longitudinally within the wall of the elongate polymeric tube; and a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from and supporting said channel; and a continuous, high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube; providing a second toneable conduit comprising an elongate polymeric tube having a wall with an interior surface, an exterior surface, and a predetermined wall thickness; a channel extending longitudinally within the wall

of the elongate polymeric tube; and a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube, integral with the elongate polymeric tube, and located radially inward from and supporting said channel; and a continuous, high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube, tearing the high elongation wire of the first toneable conduit through the exterior surface of the first toneable conduit, tearing the high elongation wire of the second toneable conduit through the exterior surface of the second toneable conduit; and electrically connecting the high elongation wire from the first. toneable conduit and the high elongation wire from the second toneable conduit.

Sherlock (col. 2, lines 41-46) teaches a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, said wire coated 20 with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a channel extending longitudinally of the wall of the elongate polymeric tube, a continuous said high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube in order to print as desired in view of the teachings of Sherlock.

Pelzer (col. 12, lines 3-20 and figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12 and teaches tearing the high elongation wire 14 of the first toneable conduit 12 through the exterior surface of the first toneable conduit 12, tearing the high elongation wire 14 of the second toneable conduit 12 through the exterior surface of the second toneable 12 conduit, and electrically connecting the high elongation wire 14 from the first. toneable conduit 12 and the high elongation wire 14 from the second toneable conduit 12 (col. 12, lines 24-27).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall of the polymeric tube and including the step of a tearing the high elongation wire of the first toneable conduit through the exterior surface of the first toneable conduit, tearing the high elongation wire of the second toneable conduit through the exterior surface of the second toneable conduit, and electrically connecting the high elongation wire from the first. toneable conduit and the high elongation wire from the second toneable conduit in order to protect the wires from corrosion and make a permanent electrical contact in view of the teachings of Pelzer.

Bergemann (figure 1) shows a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube A, integral with the elongate polymeric tube, and located radially inward from and supporting said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube, integral with the elongate polymeric tube, and located radially inward from and supporting said channel in order to provide strength to the conduit in view of the teachings of Bergemann

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a second toneable conduit comprising an elongate polymeric tube having a wall with an interior surface, an exterior surface, and a predetermined wall thickness; a channel extending longitudinally within the wall of the elongate polymeric tube; and a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from and supporting said channel; and a continuous, high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating composition that prevents the wire from adhering, to the polymer melt used to form the polymeric tube, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.,* 193 USPQ 8.

27. Claim 84 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. as modified by Sherlock, Bergemann, Pelzer, above in claim 83, and further in view of Craton.

Regarding claim 84, Wood et al. as modified by Sherlock, Bergemann, and Pelzer discloses the invention substantially as claimed, but lacks a copper-clad steel wire.

Craton.(col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Wood et al. as modified by Sherlock, Bergemann, and Pelzer by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

28. Claim 85 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. as modified by Sherlock, Bergemann, and Pelzer above in claim 83 and further in view of Tzeng et al.

Regarding claim 85, Wood et al. modified as taught by Sherlock, Bergemann, and Pelzer discloses the invention substantially as claimed, but lacks a coating of polytetrafluoroethylene.

Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polytetrafluoroethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Wood et al. modified by Sherlock, Bergemann, and Pelzer by providing a wire coated with polytetrafluoroethylene in order to be residually stressed into an expanded shape in view of the teachings of Tzeng et al.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a second toneable conduit with a wire coated with polytetrafluoroethylene, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

29. Claim 86 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. as modified by Sherlock, Bergemann, and Pelzer above in claim 83 and further in view of Bird.

Wood et al. modified as taught by Sherlock, Bergemann, and Pelzer discloses the invention substantially as claimed, but lacks a high-density polyethylene.

Bird (col. 4, line 42) teaches a tube 12 formed of a high-density polyethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Sherlock, Bergemann, and

Pelzer by providing a tube formed of a high density polyethylene in order to have the advantage of a flexible plastic material in view of the teachings of Bird.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. modified by Sherlock, Bergemann, and Pelzer by providing a second toneable conduit with a tube formed of a high-density polyethylene, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.,* 193 USPQ 8. 30. Claims 87, 88, 96, 97, and 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock in view of Pelzer and Bergemann.

Regarding claim 87, Sherlock (col. 2, lines 41-46) discloses a toneable conduit comprising: an elongate polymeric tube 10 having, a wall with an interior surface, an exterior surface, a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, but lacks a channel within the wall of the polymeric tube, a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube, integral with the elongate polymeric tube, and located radially inward from and on the same radius as said channel, and a continuous high elongation wire capable of transmitting a toning signal to allow the conduit to be detected by toning equipment.

Pelzer (col. 12, lines 3-20 and figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall of the polymeric tube in order to protect the wires from corrosion and make a permanent electrical contact in view of the teachings of Pelzer.

Bergemann (figure 1) shows a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube A, integral with the elongate polymeric tube, and located radially inward from and on the same radius as said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from and on the same radius as said channel in order to provide strength to the conduit in view of the teachings of Bergemann

Furthermore, claim 87 recites that the high elongation wire is capable of transmitting a toning signal to allow the conduit to be detected by toning equipment. It has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson,* 69 USPQ 138.

Regarding claim 88, Sherlock (col. 2, lines 41-46) discloses a high elongation wire 20.

Regarding claim 96, the wire of Sherlock inherently has size. It would have been an obvious matter of design choice to modify the invention of Sherlock by providing a wire with a diameter of from about 0.32 mm to about 2.59 mm, since such a modification would have

involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose,* 105 USPQ 237 (CCPA 1955).

Regarding claim 97, Sherlock (col. 2, lines 41-46) discloses a wire 20 coated with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10.

Regarding claim 106, Sherlock (col. 2, lines 41-46) discloses a wire 20.

Furthermore, claim 106 recites that the wire is capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled. It has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson,* 69 USPQ 138.

31. Claims 89, 90, and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann as applied to claims 88 above and further in view of the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product (Publication date unkown but prior to August 7, 2001 cited by Applicant).

Regarding claim 89, Sherlock modified as taught by Pelzer and Bergemann discloses the invention substantially as claimed, but lacks an elongation of at least about 1%.

The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product teaches an elongation of at least 1% (see table of conductor data).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Pelzer and Bergemann by providing an elongation of at least about 1% in order to withstand environmental conditions in

view of the teachings of The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product.

Regarding claim 90, Sherlock modified as taught by Pelzer and Bergemann discloses the invention substantially as claimed, but lacks an elongation of at least about 3%.

The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product teaches an elongation of at least 3%. (see table of conductor data).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Pelzer and Bergemann by providing an elongation of at least about 3% in order to withstand environmental conditions in view of the teachings of The advertisement by Pyramid Industries, Inc regarding the Toneable Duct product.

Regarding claim 93, the wire of Sherlock inherently has size. It would have been an obvious matter of design choice to modify the invention of Sherlock by providing a wire with a diameter of from about 0.32 mm to about 2.59 mm, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose,* 105 USPQ 237 (CCPA 1955).

32. Claims 91 and 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer, Bergemann and the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product as applied to claim 89 above, and further in view of Craton (U.S. Patent No. 6,139,957).

Regarding claim 91, Sherlock modified as taught by Pelzer, Bergemann and the advertisement by Pyramid Industries, Inc regarding the Toneable Duct product discloses the

invention substantially as claimed, but lacks that wire is selected from the group consisting of copper-clad steel wire, copper-clad aluminum wire, copper wire, and tin copper wire.

Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

Regarding claim 92, Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

33. Claims 94 and 95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer, and Bergemann as applied to claim 87 above, and further in view of Craton (U.S. Patent No. 6,139,957).

Regarding claim 94, Sherlock modified as taught by Pelzer, and Bergemann discloses the invention substantially as claimed, but lacks that wire is selected from the group consisting of copper-clad steel wire, copper-clad aluminum wire, copper wire, and tin copper wire.

Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

Regarding claim 95, Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

34. Claims 98-101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann as applied to claim 87 above, and further in view of Tzeng et al. (U.S. Patent No. 6,005,191).

Regarding claim 98, Sherlock modified as taught by Pelzer and Bergemann discloses the invention substantially as claimed, but lacks a coating composition formed of a polymeric material selected from the group consisting of fluropolymers, polyamides, polyesters, polycarbonates, polypropylene, polyurethanes, polyacetals, polyacrylics, epoxies and silicone polymers.

Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polyesters.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a wire coated with polyesters in order to be residually stressed into an expanded shape in view of the teachings of Tzeng et al.

Regarding claim 99, Tzeng et al. (col. 6, lines 11-14) teaches a coating composition formed of a polymeric material that has a melting temperature of at least about 500 degrees Farenheit.

Regarding claim 100, Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polytetrafluoroethylene.

Regarding claim 101, Sherlock (col. 2, lines 41-46) discloses an elongate polymeric tube 10 having a predetermined wall thickness.

35. Claim 102 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann, as applied to claim 101 above and further in view of Levingston et al. (U.S. Patent No. 6,105,649).

Regarding claim 102, Sherlock modified as taught by Pelzer, and Bergemann discloses the invention substantially as claimed, but lacks a smooth exterior surface of the tube.

Levingston et al. (col. 5, lines 50-54) teaches a smooth exterior surface of the tube 16.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a smooth exterior surface of the tube in order to enhance strength and external appearance in view of the teachings of Levingston et al.

36. Claim 103 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann as applied to claim 87 above and further in view of Karl (U.S. Patent No. 6,135,159).

Regarding claim 103, Sherlock modified as taught by Pelzer and Bergemann discloses the invention substantially as claimed, but lacks a tube formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride.

Karl (col. 1, line 55) teaches a tube 12 formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a tube formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride in order to offer resistance to chemical attack in view of the teachings of Karl.

37. Claim 104 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer, Bergemann, and Karl as applied to claim 103 above and further in view of Bird (U.S. Patent No. 6,131,265).

Regarding claim 104, Sherlock modified as taught by Pelzer, Bergemann, and Karl discloses the invention substantially as claimed, but lacks a tube formed of a high-density polyethylene.

Bird (col. 4, line 42) teaches a tube 12 formed of a high-density polyethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing a tube formed of a high density polyethylene in order to have the advantage of a flexible plastic material in view of the teachings of Bird.

39. Claim 105 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock as modified by Pelzer and Bergemann as applied to claim 87 above and further in view of Nakamura et al. (JP 05106779A cited by Applicant).

Regarding claim 105, Sherlock modified as taught by Pelzer and Bergemann discloses the invention substantially as claimed, but lacks at least one additional rib extending longitudinally along the interior surface of the elongate polymeric tube.

Nakamura et al. (figure 1) shows at least one additional rib extending longitudinally along the interior surface of the elongate polymeric tube 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified invention of Sherlock by providing at least one additional rib extending longitudinally along the interior surface of the elongate polymeric tube in order to strengthen the tube in view of the teachings of Nakamura et al.

40. Claims 107 and 108 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherlock in view of Pelzer, Bergemann, Bird, Craton, and Tzeng et al.

Regarding claim 107, Sherlock (col. 2, lines 41-46) discloses toneable conduit, comprising: an elongate polymeric tube 10 having, a wall with an interior surface, an exterior surface, and a predetermined wall thickness; a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, said wire coated 20 with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10, but lacks a channel within the wall of the polymeric tube, a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube, integral with the elongate polymeric tube, and located radially inward from and on the same radius as said channel, a predetermined wall thickness, a tube formed of high density polyethylene, a copper-clad steel wire capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled.

Pelzer (figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall of the polymeric tube in order to protect the wires from corrosion in view of the teachings of Pelzer.

Bergemann (figure 1) teaches a a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube A, integral with the elongate polymeric tube, and located radially inward from and on the same radius as said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from and on the same radius as said channel in order to provide strength to the conduit in view of the teachings of Bergemann

Bird (col. 4, lines 34-37) teaches a predetermined thickness of a wall 14.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a predetermined thickness of a wall in order to have the advantage of having the depth of recess equal to about one-fifth to about one-half the wall thickness in view of the teachings of Bird.

Bird (col. 4, line 42) teaches a tube 12 formed of a high-density polyethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a tube formed of a high density polyethylene in order to have the advantage of a flexible plastic material in view of the teachings of Bird.

Craton (col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

Furthermore, claim 107 recites that the copper-clad steel wire is capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and capable of being torn out of the polymeric tube to allow the conduit and wire to be coupled. It has been held that the

recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson,* 69 USPQ 138.

Regarding claim 108, Sherlock (col. 2, lines 41-46) discloses a wire coated 20 with a coating 24 composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10.

41. Claim 109 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (U.S. Patent No. 4,109,941) in view of Sherlock, Bergemann, and Pelzer.

Regarding claim 109, Wood et al. (abstract) discloses a method of coupling a first toneable conduit 1 with a second toneable conduit 3, comprising the steps of providing a first toneable conduit 1 comprising an elongate polymeric tube having a wall with an interior surface, an exterior surface, and a predetermined wall thickness, and mechanically connecting the first conduit and the second conduit, but lacks a channel extending longitudinally within the wall of the elongate polymeric tube; and a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube, integral with the elongate polymeric tube, and located radially inward from and on the same radius as said channel; and a continuous, high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube; providing a second toneable conduit comprising an elongate polymeric tube having a wall with an interior surface, an exterior surface, and a predetermined wall thickness; a channel extending longitudinally within the wall of the elongate polymeric tube; and a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube,

integral with the elongate polymeric tube, and located radially inward from and on the same radius as said channel; and a continuous, high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube, tearing the high elongation wire of the first toneable conduit through the exterior surface of the first toneable conduit, tearing the high elongation wire of the second toneable conduit through the exterior surface of the second toneable conduit; and electrically connecting the high elongation wire from the first toneable conduit and the high elongation wire from the second toneable conduit.

Sherlock (col. 2, lines 41-46) teaches a channel (figure 3 between reference #'s 18) extending longitudinally of the wall of the elongate polymeric tube 10, a continuous said high elongation wire 20 coincident with the channel (figure 3 between reference #'s 18) in the elongate polymeric tube 10, said wire coated 20 with a coating 24, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube 10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a channel extending longitudinally of the wall of the elongate polymeric tube, a continuous said high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating, composition that prevents the wire from adhering to the polymer melt used to form the polymeric tube in order to print as desired in view of the teachings of Sherlock.

Pelzer (col. 12, lines 3-20 and figure 10) teaches a channel 18 within the wall 16 of the polymeric tube 12 and teaches tearing the high elongation wire 14 of the first toneable conduit 12 through the exterior surface of the first toneable conduit 12, tearing the high elongation wire 14

of the second toneable conduit 12 through the exterior surface of the second toneable 12 conduit, and electrically connecting the high elongation wire 14 from the first. toneable conduit 12 and the high elongation wire 14 from the second toneable conduit 12 (col. 12, lines 24-27).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock by providing a channel within the wall of the polymeric tube and including the step of a tearing the high elongation wire of the first toneable conduit through the exterior surface of the first toneable conduit, tearing the high elongation wire of the second toneable conduit through the exterior surface of the second toneable conduit, and electrically connecting the high elongation wire from the first. toneable conduit and the high elongation wire from the second toneable conduit in order to protect the wires from corrosion and make a permanent electrical contact in view of the teachings of Pelzer.

Bergemann (figure 1) shows a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube A, integral with the elongate polymeric tube, and located radially inward from and on the same radius as said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube and located radially inward from and on the same radius as said channel in order to provide strength to the conduit in view of the teachings of Bergemann

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a second toneable conduit comprising an elongate polymeric tube having a wall with an interior surface,

an exterior surface, and a predetermined wall thickness; a channel extending longitudinally within the wall of the elongate polymeric tube; and a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube, integral with the elongate polymeric tube, and located radially inward from said channel; and a continuous, high elongation wire coincident with the channel in the elongate polymeric tube, said wire coated with a coating composition that prevents the wire from adhering, to the polymer melt used to form the polymeric tube, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.,* 193 USPQ 8.

42. Claim 110 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. as modified by Sherlock, Bergemann, and Pelzer above in claim 109, and further in view of Craton.

Regarding claim 110, Wood et al. as modified by Sherlock, Bergemann, and Pelzer discloses the invention substantially as claimed, but lacks a copper-clad steel wire.

Craton.(col. 4, line 11) teaches a copper-clad steel wire 12 or 15.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Wood et al. as modified by Sherlock, Bergemann, and Pelzer by providing a copper-clad steel wire in order to be used as a metallic conductor in view of the teachings of Craton.

43. Claim 111 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. as modified by Sherlock, Bergemann, and Pelzer above in claim 109 and further in view of Tzeng et al.

Regarding claim 111, Wood et al. modified as taught by Sherlock, Bergemann, and Pelzer discloses the invention substantially as claimed, but lacks a coating of polytetrafluoroethylene.

Tzeng et al. (col. 4, line 11) teaches a wire 14 coated with polytetrafluoroethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Sherlock, Bergemann, and Pelzer by providing a wire coated with polytetrafluoroethylene in order to be residually stressed into an expanded shape in view of the teachings of Tzeng et al.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. by providing a second toneable conduit with a wire coated with polytetrafluoroethylene, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.,* 193 USPQ 8.

44. Claim 112 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. as modified by Sherlock, Bergemann, and Pelzer above in claim 57 and further in view of Bird.

Regarding claim 112, Wood et al. modified as taught by Sherlock, Bergemann, and Pelzer discloses the invention substantially as claimed, but lacks a high-density polyethylene.

Bird (col. 4, line 42) teaches a tube 12 formed of a high-density polyethylene.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Sherlock modified by Sherlock, Bergemann, and Pelzer by providing a tube formed of a high density polyethylene in order to have the advantage of a flexible plastic material in view of the teachings of Bird.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Wood et al. modified by Sherlock, Bergemann, and Pelzer by providing a second toneable conduit with a tube formed of a high-density polyethylene, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.,* 193 USPQ 8.

Response to Arguments

44. Applicant's arguments filed 07 October 2005 have been fully considered but they are not persuasive.

Regarding Applicant's argument that the combination of references does not disclose a stabilizing rib integral with the elongate polymeric tube, Examiner disagrees. The teaching of Bergemann (figure 1) clearly shows a stabilizing rib B extending longitudinally along the interior surface of the wall of the elongate polymeric tube, integral with the elongate polymeric tube.

Conclusion

45. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

46. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anton B Harris whose telephone number is (571) 272-1976. The examiner can normally be reached on weekdays from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Dean Reichard, can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

abh
1/9/06

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